LuxCon PRO User Reference Manual

Cinelux Cinema Tools · For firmware 2026-10-13 · October 2026

Overview

The LuxCon PRO is a cinema LED contrast control filter flasher system from Cinelux Cinema Tools. It has 30 color-mixing LED nodes containing 5 individual color diodes arranged in a metal filter tray that holds standard 4x5.65” cinema filters. It replaces one Arri standard size filter tray in a mattebox system.

- 30 LED nodes. Each node mixes red, green, blue, cool white and warm white, and each can be colored and controlled individually or collectively.
- Fine, flicker-free dimming: Every channel dims in 15-bit steps (32,768 levels). The LEDs are driven at about 19.5 kHz.
- White from 2700 to 6500 K, plus direct control of the cool and warm white diodes.
- 24 built-in effects with adjustable colors, speed and size.
- Lux Adaptive mode: A built-in light sensor lets the white output follow the scene’s brightness and/or color temperature.
- Five ways to interface – all usable at once by default (DMX once you switch reception on):
    - The on-unit buttons and display
    - The LuxCon Pro app over Bluetooth
    - Any web browser over Wi-Fi
    - DMX512 console
    - Computer over USB
- Built-in protection against reversed polarity, input over-current, LED supply faults and overheating.

Controls, connections, and main components

Part	Use
Power button	Press to switch on. Hold for 3 seconds to switch off.
Menu buttons Left, Center, Right	Work the display menu: Left moves back or steps a value down, Center selects (hold it to go back), Right moves on or steps a value up.
Display	128 × 32 pixel screen for the menu and status.

Part	Use
Main power input	2B 5-pin Lemo cable, input range 12.0–16.8 V.
USB-C port	Text console for setup and support. Powers the electronics but not the LEDs.
DMX input	One DMX512 port, terminated inside the fixture. There is no DMX thru.
Light sensor	Measures ambient brightness and color temperature for adaptive white.
position sensor	Senses the fixture's tilt and orientation, for the app's tracking features.

Safety

Read these warnings before you power the fixture. They cover hazards that its electronics do not guard against.

- Bright light. Do not stare into the LEDs at close range.
- Flashing effects. Strobe, Lightning, Paparazzi, Alternating Flash, TV, Fluorescent and Twinkle flash or flicker, as do fast settings of other effects. These can trigger seizures in people with photosensitive epilepsy. The Strobe effect flashes at up to 4.4 times a second, and the DMX strobe channel at up to 10. Warn cast, crew and audience before using them.
- Power output via 2B 5-pin Lemo cable. (12.0–16.8 V) with its own protection circuit. The fixture has no low-battery cut-off and keeps running until the pack's protection stops it. Recharge before the gauge reaches 0 %.
- Input voltage. Never connect more than 16.8 V. The input is fused at 3 A and protected against reversed polarity, but over-voltage can damage it.
- Heat. At max current 50 or less, the fixture runs at full output until its board reaches about 77–79 °C, then cuts its drive sharply by 80 °C. With Allow high MC on, it starts dimming sooner. It never switches off completely for heat. Do not cover or enclose it while it is lit.
- High output setting. Allow high MC lets max current go above 50, up to 159. That raises output, heat and battery drain, and can make the LEDs brown out at high load. Use it only when you need the extra output. Take note of the available amperage of your power output and power distribution on camera. Excessive amperage draw may cause a power failure to your system.
- Open radio access. Bluetooth has no PIN, and every fixture uses the same Wi-Fi hotspot password. Anyone in range can connect and take control.

Mattebox and Filter setup

The LuxCon Pro filter flashing system is meant to fit into a filter tray slot in your standard 4x5.65” mattebox system. It is recommended to place the Luxcon in the tray slot closest to the lens. The overhang of the top of the LuxCon Pro may hinder fitment of other trays or stages in the mattebox

system. Mounting backwards, in different tray slots, or even upside down may prevent collision and allow for the best fitment.

Using Glass Cinema Filters

The LuxCon Pro Takes standard 4x5.65” cinema filters. To achieve the proper flashing effect, the filter must contain a particulate or something that reflects light. Contrast filters work best because they provide the most even spread of light without having a halation or optical effect on the image. You can use any contrast, diffusion, or atmosphere filter to achieve the flashing effect. Clear filters do not work unless the surface is manually coated with a reflective or light refracting material. It is best to use glass filters that have translucent edging. You may want to special order your favorite filter with translucent edging for the best flashing effect to achieve the highest flashing effect resolution possible. New Schneider filters have the most opaque edging and you may have trouble flashing the filter unless using on very high settings.

Installing Filters

1. Remove the filter catch on the top outside of the tray section by pulling it from the middle with your finger. It requires a little force because each side is held in place by strong magnets.
2. Insert your 4x5.65”filter from the front as you would a normal mattebox filter tray.
3. Reattach the filter catch by placing it gently back in place parallel to the LuxCon Pro. The magnets will snap the catch in place.
4. Make sure the filter is properly and securely installed by testing its fitment and the security of the catch. Make sure to do this on or over a surface to prevent possible filter damage as it may fall out if not securely installed.
5. Test the filter’s ability to be flashed by powering the LuxCon Pro and turning the LEDs on.

Mattebox Installation

The LuxCon Pro was built to have the maximum amount of power, resolution, and features. The metal design of the filter tray area is very slightly bigger than a standard Arri mattebox filter tray to accommodate the CRI 95 LEDs and advanced drivers. Light force may be necessary to fully install the LuxCon Pro into the mattebox. Use caution not to damage any components and always work over a surface.

1. Remove one or more filter trays in your Arri standard size mattebox system.
2. Loosen the tightening knobs for other filter trays, stages, and lens clamp adapter backs for easy slotting of the LuxCon
3. Insert the LuxCon Pro as straight as possible into one of the filter tray slots in your mattebox. The LuxCon Pro is meant to replace one 4x5.65” size tray. If you encounter resistance when inserting, make sure any contact points are moved out of the way.
4. Tighten all knobs on the mattebox for secure fitment.

To get the fixture running you need a 2B 5-pin Lemo cable (provided), a press of the power button, and a choice of how to control it.

Control Setup

To get the fixture running you need a 2B 5-pin Lemo cable (provided), a press of the power button, and a choice of how to control it.

1. Connect power. Connect to a 12.0–16.8 V DC output via the 2B 5-pin Lemocable to the main power input. USB-C alone runs the electronics but cannot light the LEDs.
2. Switch on. Press the power button. The display plays a short start-up animation. When the drawn hand pulls the cord, the LEDs light with the last scene.
3. Choose how to control it. Out of the box every control method works at once (operating mode Auto).
    - Onboard Buttons: open Light → White and Light → Bright on the display.
    - App: install LuxCon Pro, tap ENTER, then SCAN, then tap the fixture.
    - Browser: join Wi-Fi LuxCon-PRO (password LuxCon pro) and open http://192.168.4.1.
    - DMX: set a personality and start address, then switch reception on (see DMX control).
4. Switch off. Hold the power button for 3 seconds, until the POWER OFF bar fills, then release. The fixture saves the current scene first.

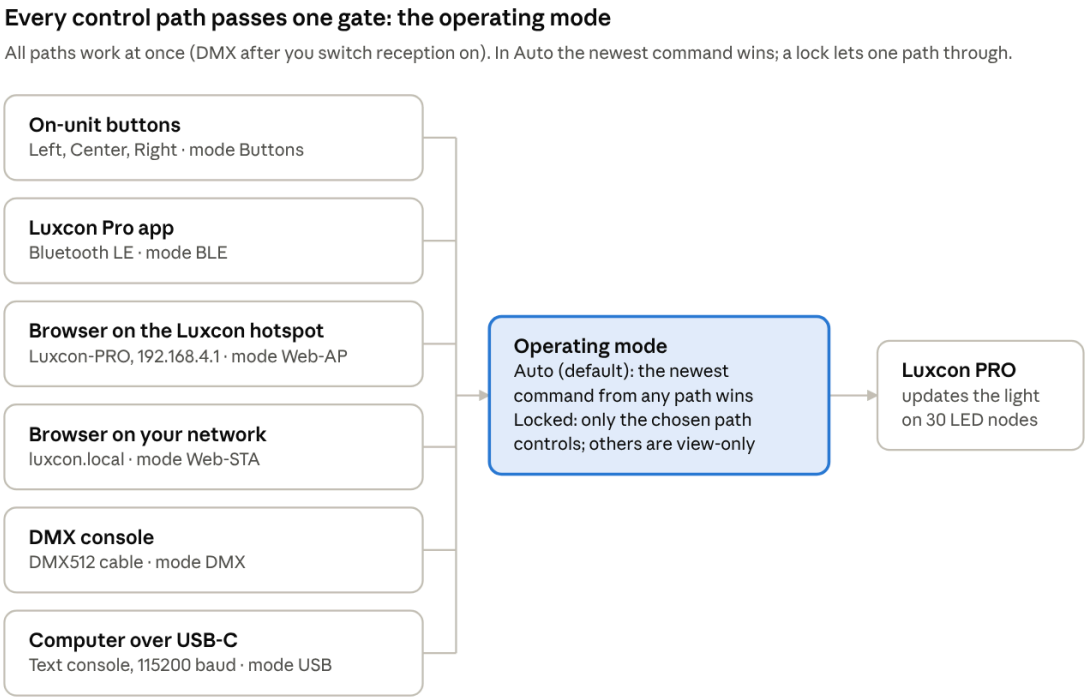
- The fixture remembers its scene, operating mode, DMX settings, LED output levels, max current and Wi-Fi settings when switched off.
- If a new fixture starts dark, no scene is stored yet. Open Light → White on the display and press Left or Right once, or set any color from the app or web page.
- While USB power is connected the fixture cannot switch itself fully off. Unplug USB to finish.

Control and Interface Methods

You can run the fixture from its buttons, the app, a web browser, a DMX console or a computer, all usable at once by default. DMX works once you switch reception on. The operating mode decides which of them may change the light.

Method	What you need	How it connects	Mode name
On-unit buttons	Nothing	Left, Center and Right buttons with the display	Buttons
LuxCon Pro app	An Android, IOS phone or tablet	Bluetooth LE, one phone at a time	BLE
Web page on the hotspot	Any device with Wi-Fi and a browser including phone, computer, tablet	Join LuxCon-PRO and open 192.168.4.1; up to 4 devices	Web-AP
Web page on your network	A 2.4 GHz Wi-Fi network	LuxCon.local or the fixture's LAN address	Web-STA

Method	What you need	How it connects	Mode name
DMX	A DMX512 console, or an Art-Net or sACN node	DMX cable to the DMX input	DMX
USB console	A computer and a serial terminal (power via 5-pin lemo required)	USB-C cable, 115200 baud	USB



control paths · 6 sources, 1 gate

Each command carries its source. In Auto, the newest command wins. Under a lock only the chosen source changes the light, while settings such as the mode itself are accepted from any source.

Operating mode

The operating mode decides which control source may change the light. In Auto, the default, the newest command from any source wins. Every other mode locks control to one source and makes the rest view-only.

Mode	Who can change the light	Name in the app
Auto (last-wins)	Every source; the newest command wins	AUTO (LAST-WINS)
Buttons	The on-unit buttons only	ON-UNIT BUTTONS
BLE	The LuxCon Pro app only	BLUETOOTH (THIS APP)

Mode	Who can change the light	Name in the app
Web-AP	Web browsers only	WEB · UNIT HOTSPOT
Web-STA	Web browsers only	WEB · WIFI ROUTER
DMX	The DMX console only. Choosing it also switches DMX reception on.	DMX-512
USB	The USB console only	USB-C (CLI)

Web-AP and Web-STA currently behave the same: both accept browsers on either network.

Change the mode

- Display: Setup → Control, then Left or Right.
- App: SETUP → GENERAL → OPERATING MODE.
- Web page: SYSTEM tab → Mode.
- USB console: `mode auto`, `mode ble` and so on.

You can change the mode from any of these at any time, even while another source holds the lock, so you can never be locked out. DMX cannot change it. The mode survives power-off, and a factory reset returns it to Auto.

What view-only means

Sources without control can still read status, but commands that change the light are refused. That covers color, white, intensity, tint, effects and pause, output on/off, adaptive white, the sensor features, DMX address and reception, display on/off and power off. The exceptions are the web page's direct white controls and the USB console's white command, which currently still work.

These settings work from every source in any mode: operating mode, nickname, max current and Allow high MC, DMX personality (except on the display) and custom map, power rail, factory reset and firmware update. Wi-Fi settings on the web page also work in any mode.

Source	What a refusal looks like
App	SETUP shows "⚠ This app is VIEW-ONLY in <MODE> mode. Tap BLE or Auto above to control from your phone." Refused commands show "View-only — another control source has the fixture".
Web page	A View-only banner. Refused commands show "view-only: the unit is locked to another control source".
Display	The Light and DMX pages show values but ignore the buttons. Setup and Info pages always work.
USB console	`ok`, followed by a `[cmd] … REJECTED(view-only)` line.
DMX	Frames arrive but are not applied.

Good to know

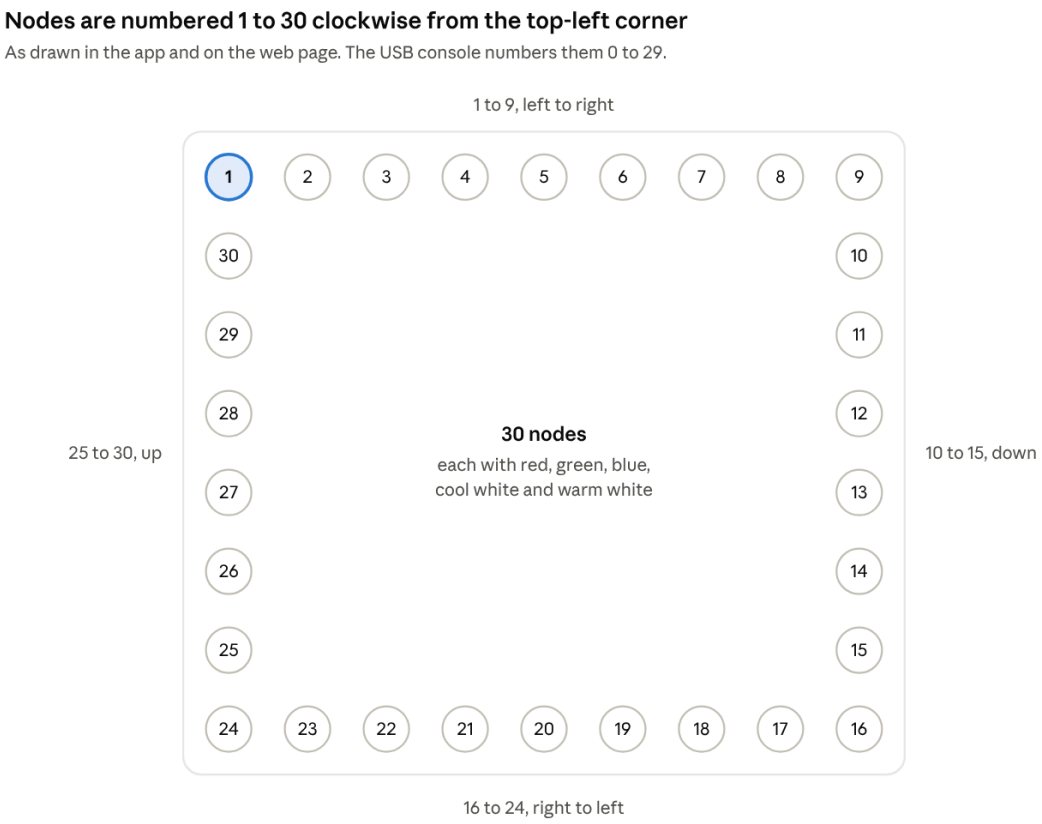
- A live DMX console wins control in Auto. With reception on and a console sending, the console takes control back on every frame. To take over from the app or web page, switch DMX reception off or lock the mode to your source. Leaving DMX mode does not switch reception off.
- A lock does not time out. If the locked source disconnects, the light holds its last look and the lock stays, even across power cycles. Change the mode from another source to take over.
- Who is driving now: the app's SOURCE readout, the web page's Active source (for example `Auto -> BLE`), and the heading of the display's Info → Status page.
- The display's Light → Auto item is the adaptive white setting, not the Auto operating mode.

Lighting modes

The fixture's look comes from 30 LED nodes, each with five channels: red, green, blue, cool white and warm white. You set them as color, white or both, under a master intensity.

LED nodes

- The 30 nodes form a rectangular ring. The app and web page number them 1–30 clockwise from the top-left corner: 1–9 along the top, 10–15 down the right, 16–24 along the bottom and 25–30 up the left. The USB console numbers them 0–29.
- Each node can be switched on or off. A node that is off stays dark whatever its color.
- In the app and on the web page, color and white changes go to the selected nodes, or to all nodes when none is selected. The display, DMX (except the Pixel personality) and the USB `rgb` and `cct` commands set every node.



node numbering · 30 nodes, clockwise

Node 1 sits at the top-left corner, and the Pixel DMX personality patches the nodes in the same order.

Color

- The app offers HSI (hue ring, saturation/value square and HEX) and RGB (R, G and B sliders from 0 to 255, and HEX). The web page offers a color wheel with a Value slider, a color picker, HEX and R/G/B sliders.
- HSI is only a way of picking a color. The fixture stores red, green and blue values at 15-bit resolution.
- In the app and on the web page, color and white are independent and add together. Changing the color leaves the white alone, and changing the CCT leaves the color alone. The app, though, sends its own copy of the whole look, so a change in the app replaces color or white set from elsewhere.
- On the USB console, `rgb` and `hex` set white to zero and `cct` sets color to zero. The display's Light → White page also clears color.

White

- CCT sets the cool and warm white diodes in proportion for 2700–6500 K, with the stronger one at full. The default is 5600 K. The Kelvin value is a nominal mix, not a measured color temperature.

- The app has CCT presets: Tungsten 3200 K, Warm White 3500 K, Fluorescent 4000 K, Daylight 5600 K and Blue Sky 6500 K.
- Direct white sets each emitter on its own: COOL WHITE and WARM WHITE (0–100 %) in the app, or White balance — CW / WW direct on the web page. Both diodes at full (BOTH FULL on the web page) gives the most white output.
- On the web page, the direct white and White intensity sliders set every node, ignoring the selection, and leave a running effect playing.

Intensity and tint

- Master intensity scales every channel from 0 to 32767 (15-bit) and defaults to full. It is Grand master or Master intensity on the web page, INTENSITY on the app's EFFECTS page, Light → Bright on the display, and `dim` or `intensity` on the USB console. Under DMX, the console's dimmer replaces it.
- Per-node intensity is baked into each node's color and stacks under the master. Use INTENSITY on the app's FIXTURE page (0–32767, fine at the low end) or Per-LED trim on the web page (0–100).
- In the app, any color, white, intensity or tint change on the FIXTURE page sets the master back to full. Use the FIXTURE page's INTENSITY for static looks and the EFFECTS page's for effects.
- Green/Magenta tint runs from −100 (magenta) to +100 (green), default 0. It shifts only the red, green and blue diodes, by up to about 40 %, so it has no effect on pure white from the white diodes.

Output on and off

- OUTPUT OFF on the web page, ALL in the app (in ON/OFF mode) and `off` on the USB console switch every node off. OUTPUT ON, ALL again or `on` bring them back.
- The display's Light → Lights page toggles the master output without changing the nodes.
- Nodes switched off this way stay off after a power cycle, although the output itself always starts on. If the fixture starts dark, use OUTPUT ON, ALL or `on`.

Adaptive white

Adaptive white drives the cool and warm white diodes of every node from the built-in light sensor. Red, green and blue are left alone.

Mode	White output
Off	Manual white (default)
Lux Adaptive	5600 K, rising with room light from off in darkness to full at 1000 lux or more
CCT Match	Follows the room's measured color temperature (2700–6500 K), from 30 % to full as room light rises to 1000 lux
Indoor/Outdoor	6500 K at full above 500 lux; otherwise 3200 K at half

- Set it on the display (Light → Auto: Off, Lux Adapt, CCT Match, In/Out), in the app (SETUP → GENERAL → ADAPTIVE LIGHT), on the web page (color → Adaptive white) or with `light 0` to `light 3`.
- Setting a color or CCT from the app, web page or USB console, or starting an effect, switches it off. The display's White page and the web page's direct white controls do not, and adaptive white overrides their white, so switch it off first. Switch it on again afterwards to run it under an effect.
- It does not run under DMX.

Sensor features

Three more features, in the app's SETUP → SENSORS tab, use the light and position sensors (see LuxCon Pro app).

- Light auto transition scales the whole output between two room-light levels you calibrate.
- Pose tracking keeps full output while the fixture points where you zeroed it, and fades the output as it turns away.
- Horizon tracking turns the look around the ring to keep it level as the fixture rolls.

Light auto transition and pose tracking do not run under DMX; horizon tracking does. Light auto transition and pose tracking stay on after a power cycle, so a fixture can start dimmed, while horizon tracking always starts off.

Effects

The fixture has 24 built-in effects. Each has its own colors and up to four parameters, and runs until you stop it or set a static look.

Start, pause and stop

Where	Start	Pause	Stop
App	Tap a tile on EFFECTS	PAUSE / RESUME	Set a look on FIXTURE (there is no STOP button)
Web page	Tap an effect on EFFECTS	PAUSE / RESUME	STOP
Display	Light → Effect, then Left or Right	Not available	Choose Off
DMX	Effect channel (Standard and Custom personalities)	Not available	Effect channel at 0–7
USB console	`effect N`	`pause on` / `pause off`	`stop`

- STOP leaves the effect's last frame on as a static look; it does not black out. PAUSE freezes the current frame until you resume, change one of the effect's settings, or pick another effect.
- Starting an effect switches adaptive white off.
- The fixture remembers the running effect and its settings when switched off.

Effect list

The numbers are the ones the USB console uses, and the DMX effect channel follows the same order. The display shortens some names: Beacon, ColorCycl, Alt Flash, Fluoresc.

#	Effect	What it does	Parameters (see "Parameters" below)	App defaults
1	Solid	All nodes in color 1	color 1	White
2	Rainbow	The full spectrum around the ring, rotating, at half brightness	Speed	Speed 50
3	Beacon Sweep	Half the ring in color 1 and half in color 2, spinning	Speed, colors 1–2	50; red, blue
4	Flow	colors 1 and 2 blending as they travel round the ring	Speed, colors 1–2	40; red, orange
5	Lightning	Bursts of flashes, then 1.5–3.5 s of dark	Strikes, color 1	3 strikes; white
6	Wave	A brightness wave of color 1 travelling round the ring	Speed, color 1	50; green
7	Ripples	Two bright bands of color 1 circling	Speed, width, color 1	40, width 4; yellow
8	Strobe	Whole-fixture flashes of color 1	BPM, duty, waveform, color 1	240 BPM, 50 %, Square; white
9	Breathing	A smooth fade up to the peak and back	BPM, peak, color 1	12 BPM, peak 100 %; white
10	Chase	1–3 evenly spaced blocks circling, dark between	Speed, width, colors (1–3)	70, width 5, 2 colors; yellow, blue, green
11	Comet	A soft-edged spot of color 1 travelling slowly round the ring	Speed, width, color 1	70, width 6; cyan
12	Twinkle	A dim color 1 base with random full-brightness sparkles	Speed, density, color 1	50, density 3; white
13	Flicker	Fire-like jitter between colors 1 and 2	Speed, colors 1–2	50; red, yellow

#	Effect	What it does	Parameters (see “Parameters” below)	App defaults
14	Gradient	Bands blending color 1 into color 2, scrolling	Speed, bands (1–12), colors 1–2	50, 5 bands; red, blue
15	Color Cycle	The whole fixture cycles through the hues from color 1, at half brightness	Speed, color 1	30; white
16	Aurora	Slowly drifting multi-hue light	Speed	48
17	Alternating Flash	The fixture split by a line at an angle; the halves flash colors 1 and 2 in turn	Speed, angle (0–180°), colors 1–2	80, 0°; red, blue
18	Candle	A gentle flicker of color 1	Speed, color 1	40; orange
19	TV	Random brightness and cool or warm tint jumps, like a television's glow	Speed	60
20	Wipe	A hard edge sweeps round; each lap brings the next of 1–3 colors	Speed, colors (1–3)	60, 2 colors; red, blue, green
21	Fireworks	Random bursts that bloom and fade, in random hues with MULTICOLOR	Speed, bursts, color 1	50, 3 bursts, MULTICOLOR on
22	Paparazzi	Random single-node camera flashes of color 1 on black	Speed, color 1	60; white
23	Fluorescent	Mostly steady, with the stutters, dropouts and restrikes of a failing tube	Speed, color 1	50; pale cool white
24	Pulse	A smooth crossfade between colors 1 and 2 that never goes dark	Speed, colors 1–2	40; blue, red

Parameters

Parameter	Range	What it sets
Speed	1–100	How fast the effect moves
Width	0–100	Band or block size. Strobe shows it as Duty % (1–99, Square wave only), Breathing as Peak or MAX (0–100 %), and Gradient as Bands (1–12).

Parameter	Range	What it sets
Count	1–6	Strikes for Lightning, Density for Twinkle, Bursts for Fireworks. Chase and Wipe show it as colors (1–3).
BPM	1–255	Flash rate for Strobe and breath rate for Breathing. Alternating Flash shows it as Angle (0–180°).
Waveform	8 shapes	Strobe only: Square, Sine, Triangle, Saw, Spark (saw down), Exp decay, Sigmoid, Gaussian

- Each effect moves in a fixed direction; there is no direction setting.
- The web page's Time smoothing switch currently has no effect.
- The Strobe effect flashes about BPM ÷ 60 times a second, rounded to whole 25 ms frames, so 255 BPM gives about 4.4 flashes a second. Read Safety before using flashing effects.

Effect colors

- color 1, 2 and 3 set the effect's colors. The app offers white, red, orange, yellow, green, cyan, blue, violet, magenta and a custom picker.
- LEDS in the app, or LEDs on on the web page, choose which diodes the effect drives: RGB, CW and WW. With CW or WW on, CW % and WW % set the white level (default 50 %). With RGB off, the effect runs on white alone.
- MULTICOLOR (Fireworks only) gives each burst a random hue.
- SCENE in the app, or Use current fixture config on the web page, makes the effect take its color and white from the static look on the fixture when it starts. If that look is dark, the effect uses its own colors.

Where effect settings are kept

- App: the SCENE choice is remembered per effect, on the phone. Other settings return to their defaults each time you open EFFECTS, and RESET THIS EFFECT restores them on demand.
- Web page: colors are kept per effect until the page is reloaded, and RESET TO PRESET restores them. Speed, Width, Count and BPM are shared by all effects.
- Fixture: remembers the running effect and its settings across power cycles.

On-unit controls

Three menu buttons (Left, Center and Right) and a small display run the fixture without a phone or console, and the power button switches it on and off.

Buttons

Button	Press	Hold
Power	Switch on	3 seconds: switch off. A POWER OFF bar fills; release early to cancel.
Left	Previous item, or step a value down	Large steps down, repeating

Button	Press	Hold
Center (select)	Open the highlighted item; set or toggle on some pages	Go back
Right	Next item, or step a value up	Large steps up, repeating
Left + Center + Right together		2 seconds: display off or on

- A press counts when you release the button. A hold counts after 0.8 seconds, and a held Left or Right repeats about 7 times a second.
- While the display is off, a press only wakes it. A hold still changes the value on the open page.
- The display's on-screen hints call the buttons B1 (Left), B2 (Center) and B3 (Right).

Menu map

The home screen shows LuxCon, the group number (for example 2/4) and the group name. Left and Right pick a group and Center enters it. Inside a group, Left and Right pick an item and Center opens its page; hold Center to go back.

Group	Item	The page shows	On the page
Light	Lights	Master output ON or OFF	Center toggles the output
Light	Bright	Master intensity in % and as n/32767	Left/Right fine steps of about 6 % of the current level; hold for 10 % steps
Light	White	CCT in K, 2700–6500	Left/Right ±100 K; hold ±500 K. Sets every node to white, clears color and stops any effect.
Light	Effect	Effect name: Off, then the 24 effects	Left/Right previous or next; hold to jump 5
Light	Auto	Adaptive white: Off, Lux Adapt, CCT Match, In/Out	Left/Right choose
DMX	DMX	Address range (for example A1-6), reception state (off, no sig or RX) and personality	Center toggles reception; Left/Right ±1 address; hold ±10
DMX	Profile	Basic 6, Standard 12, Pixel 154 or Custom 16, with the channel count and start address	Left/Right choose. The address moves down if the new footprint does not fit.
Setup	Control	Operating mode	Left/Right choose
Setup	Max Cur	Max current	Left/Right ±5; hold ±25. Range 1–50, or up to 159 with Allow high MC on

Group	Item	The page shows	On the page
Setup	Rail	LED power rail ON, or OFF (saving)	Center toggles the rail. Switching it on sets max current to 7.
Setup	Restore	A prompt to restore all settings	Center, then Right for yes or Left for no
Info	Status	Effect number, active source and temperature, for example A3 BLE 36C; battery %	Read only
Info	Battery	Battery voltage, % and a bar	Read only
Info	BLE	Default Bluetooth name (always LuxCon), serial number and firmware version	Read only
Info	About	Firmware version and a button guide	Read only

- Center sets or toggles on the Lights, DMX, Rail and Restore pages. On every other page it returns to the item list.
- On the Info pages, Left and Right step to the neighbouring Info page.
- The White page always starts at 5600 K after power-up, whatever the fixture is showing.
- When the operating mode locks control to another source, the Light and DMX pages show their values but ignore the buttons, without a message. Setup and Info pages always work.
- The display shows no warnings for low battery, heat or faults. Check Info → Battery and the temperature on Info → Status.

LuxCon Pro app

The LuxCon Pro app controls one or more fixtures over Bluetooth from an Android phone or tablet, held in landscape.

- Requirements: Android 12 or later with Bluetooth LE. Allow Nearby devices when asked.
- Internet: needed only for firmware updates.

Connect to a fixture

1. Switch the fixture on, and turn on Bluetooth on the phone.
2. Open LuxCon Pro and tap ENTER.
3. On CONNECT, tap SCAN. The scan runs for 15 seconds and lists fixtures under DISCOVERED.
4. Tap the fixture. When it connects, the app shows "LuxCon device connected via Bluetooth" and opens FIXTURE.

- At launch, the app reconnects by itself to the last fixture you used.
- KNOWN DEVICES lists fixtures the app has seen. Its ⋮ menu offers Connect, Rename (local) and Forget. A local rename changes only the label in this app.
- SKIP · ENTER OFFLINE lets you build looks and presets with no fixture connected.

- Only one phone can connect to a fixture at a time. While one is connected, other phones cannot see the fixture.
- The scan finds only fixtures whose Bluetooth name contains "LuxCon". Keep "LuxCon" in any nickname, or reach the fixture from KNOWN DEVICES.
- If the link drops, the app does not reconnect by itself. Reconnect from CONNECT.

Control several fixtures

- Each connected fixture gets a tab under the top bar. Tap a tab to make that fixture active; the controls and readouts follow it.
- + adds another fixture. Long-press a tab for Rename and Disconnect.
- MIRROR sends every command to all connected fixtures. That includes SETUP actions such as operating mode, DMX address, POWER OFF DEVICE and RESTORE FIRMWARE DEFAULTS, so switch MIRROR off before changing one fixture's settings.
- Firmware updates go to the active fixture only.

Screen layout

- Left rail: FIXTURE, PRESETS, EFFECTS, CONNECT and SETUP.
- Top bar: the page's sub-tabs, a clock and the link state: LIVE, LINK while connecting, or OFFLINE (tap it to open CONNECT). A green tick flashes each time the fixture confirms a command.
- Status strip at the bottom, for the active fixture:

Readout	Shows
OUTPUT	ON or OFF
EFFECT	The running effect, or NONE
DMX ADDRESS	DMX start address
SOURCE	Which control source is driving the light now
TEMP	Board temperature, °C
DMX IN	OK when DMX reception is switched on, whether or not a signal is present
FAULT	Always OK for now. The web page's LED fault readout (SYSTEM tab) shows the real state.
VOLTAGE	Battery voltage

FIXTURE page

- The board shows the 30 LEDs around an outline of the fixture. In ON/OFF mode a tap switches an LED on or off; in SELECT mode a tap selects it. Hold or drag to paint across several LEDs.
- ALL in ON/OFF mode switches every LED on, or all off when all are already on. In SELECT mode it selects all or clears the selection. All LEDs start selected.

- The board is the app's own copy of the look. Changes made from the web page, DMX or the buttons do not appear on it.
- INTENSITY tab: INTENSITY sets each LED from 0 to 32767, with fine control at the low end. − and + move one step; hold to speed up. ± GREEN tints the LEDs' color from −100 (magenta) to +100 (green).
- COLOR tab, COLOR MODE:
    - CCT: a Kelvin slider for 2700–6500 K (− and + move 50 K), presets, and COOL WHITE and WARM WHITE from 0 to 100 %.
    - HSI: a hue ring, a saturation/value square and HEX.
    - RGB: R, G and B from 0 to 255, and HEX.
- A banner shows APPLIES TO ALL 30 NODES or APPLIES TO n SELECTED.
- Any color, white, intensity or tint change on this page stops a running effect, sets master intensity to full and tint to 0, and switches adaptive white off.

EFFECTS page

Tap a tile to start an effect. While it runs, the editor shows PAUSE / RESUME, INTENSITY (the master, for all effects), the effect's own controls and colors, and RESET THIS EFFECT. Changes apply as you make them; see Effects.

PRESETS page

- SAVE CURRENT stores the current look under a name of up to 31 characters. Tap a card to recall it on the active fixture, or on all fixtures with MIRROR. The bin icon deletes a preset, with UNDO.
- A preset stores all 30 LEDs' color, white, intensity and tint, the effect and its settings, master intensity, and max current as last set in the app. Recalling it does not switch LEDs on or off, and does not restore adaptive white.
- Presets do not store the effect's SCENE and LEDS choices, DMX settings or the operating mode.
- Recalling a preset also sets max current to the value saved with it, which is 15 unless you changed it in the app.
- Presets live on the phone only. They are not stored on the fixture or shared with other phones, and clearing the app's data deletes them.

SETUP page: GENERAL

Setting	What it does
NICKNAME, SAVE	Names the fixture, up to 31 plain letters and digits. The Bluetooth name changes after the fixture restarts.
OPERATING MODE	Chooses which source controls the light; see Operating mode.
MAX CURRENT · MC	1–50, default 15. ALLOW HIGH MC (>50) raises the limit; the fixture caps it at 159.
ADAPTIVE LIGHT · CW/WW	OFF, LUX ADAPTIVE, CCT MATCH or INDOOR/OUTDOOR; see Lighting modes.

Setting	What it does
DMX-512	Reception switch, MODE (personality), START ADDRESS with APPLY, and CHANNEL MAP for Custom; see DMX control.
DEVICE CONTROLS	OLED DISPLAY on/off, POWER RAIL on/off, and POWER OFF DEVICE.
RESTORE APP DEFAULTS	Resets the app's own copy of the look on this phone. Nothing is sent to the fixture.
RESTORE FIRMWARE DEFAULTS	Factory-resets the fixture; see Troubleshooting.
BLUETOOTH DEVICES	Opens CONNECT.

SETUP page: SENSORS

Card	What it does
STATUS	Output, effect, light mode, board temperature, horizon tracking, display, DMX and fault
POSE · 9-DOF MADGWICK	Roll, pitch and yaw readouts, and the horizon tracking controls
POSE TRACKING	Fades the output as the fixture turns away from an aim you set
AMBIENT LIGHT · OPT4060	Room light in lux and its color temperature
LIGHT AUTO TRANSITION	Scales the output with room light between two levels you calibrate
BATTERY	Battery voltage and %, and the LED regulator voltage

Horizon tracking keeps the look level as the fixture rolls.

1. Hold the fixture level and tap ZERO HEADING.
2. Tap HORIZON OFF; the button then reads HORIZON ON. As the fixture rolls, the look turns around the ring to stay level.
3. Tap FLIP DIRECTION if it turns the wrong way. LOCK HORIZON freezes it where it is.
4. Tap SMOOTHING OFF to switch smoothing on. It adds BLEND WIDTH (5–90°, default 20°) and STEADINESS (0–1.50 s, default 0.15 s).

Pose tracking keeps full output only while the fixture points at its subject.

1. Aim the fixture at the subject and tap ZERO AIM.
2. Switch POSE TRACK on. Output stays full within the CONE (default 10°) and fades to the FLOOR (default 0 %, off) by the EDGE (default 30°). RESPONSE TIME (default 0.5 s) smooths changes.

3. INVERT CONE makes it dark inside the cone instead. LOCK OUTPUT holds the current level.

Light auto transition follows the room's brightness.

1. In the brightest conditions you expect, tap SET BRIGHT. In the dimmest, tap SET DIM. BRIGHT must be more than 10 lux above DIM; until it is, the output stays at full.
2. Switch AUTO TRANSITION on. Output runs from the FLOOR (default 5 %) at the dim level to full at the bright level, with a RESPONSE TIME of 2.5 s by default.
3. INVERT (BRIGHT = DIMMER) reverses the direction. EVEN RAMP (LOG) spreads the change evenly on a logarithmic scale.

SETUP page: ABOUT

- DEVICE shows the fixture's SERIAL, FIRMWARE version and REMOTE ID (its Bluetooth address). SERIAL is currently the same on every fixture, so quote the REMOTE ID to identify yours.
- FIRMWARE UPDATE opens the update page; see Firmware updates.
- SEND FEEDBACK opens your email app with a message to the Cinelux Cinema Tools team, adding the fixture's name, serial and firmware.

App messages

Message	Meaning
View-only — another control source has the fixture	The operating mode locks control to another source. Choose BLUETOOTH or AUTO under OPERATING MODE.
Device didn't recognise that command (firmware mismatch?)	The fixture's firmware is older than the app. Update it.
Command failed on the device	The fixture could not apply the command.
Failed to connect after 3 attempts	Move closer, and check the fixture is on and not connected to another phone.
Failed to scan for devices: … BLUETOOTH_SCAN required	Allow Bluetooth (Nearby devices) for LuxCon Pro in the phone's settings.
Bluetooth is off. Please turn it on.	Turn on Bluetooth.

Web control (Wi-Fi)

Every LuxCon PRO runs its own Wi-Fi hotspot and serves a full control page at http://192.168.4.1, so any phone, tablet or laptop with a browser can run it. It can also join your own 2.4 GHz network, where it answers at http://LuxCon.local.

Connect to the fixture's hotspot

1. Join the Wi-Fi network LuxCon-PRO with the password LuxCon Pro.

2. Most devices open the welcome page by themselves. Tap OPEN CONTROLS to go straight to the controls.
3. To use your usual browser instead, tap DONE, USE MY BROWSER, close the welcome window, then type 192.168.4.1 into the browser. Done tells your device to stay on the LuxCon Wi-Fi even though it has no internet.
4. If no page opens by itself, browse to http://192.168.4.1.

- The hotspot is always on, even while the fixture is joined to your own network, so you cannot lock yourself out.
- Up to 4 devices can join the hotspot at once.
- The page has no login. Anyone on the hotspot, or on a network the fixture has joined, can control the fixture, change its Wi-Fi settings, update its firmware or reset it.
- Every LuxCon PRO uses the same hotspot name and password, so with several fixtures powered you cannot choose which one you join. Set fixtures up one at a time, then run them all from your own network.

Join your own Wi-Fi network

Station mode puts the fixture on your venue or studio network so every device on it can reach the page; the hotspot stays on alongside.

1. Connect to the hotspot and open the NETWORK tab.
2. Under Join a WiFi router (station), enter the Network name (SSID) and Password. Leave the password blank for an open network, or to keep the saved password when the network name is unchanged.
3. Tap CONNECT. Status changes from `connecting` to `online`, and LAN address shows the fixture's address on your network.
4. From any device on that network, open http://LuxCon.local or the LAN address.

- Only 2.4 GHz networks work, open or secured with a single password. Networks that need a username or a sign-in page (enterprise or hotel Wi-Fi) do not.
- If the network is out of reach, the fixture keeps retrying, backing off from 2 seconds to once a minute. A wrong password shows only as `connecting` or `retrying`.
- Settings save immediately, and the fixture rejoins the network by itself at every power-on.
- DISCONNECT drops the link but keeps the saved network. A factory reset erases it.
- With more than one fixture on the same network, `LuxCon.local` may reach any of them. Use each fixture's LAN address instead, ideally a static one.

Give the fixture a fixed (static) address

The fixture takes an address from your router (DHCP (automatic)) unless you set one under Router-side IP address on the NETWORK tab.

1. Tap Static.
2. Enter IP address, Subnet mask and Gateway (router). DNS (optional) can stay blank to use the gateway.
3. Tap APPLY. If you opened the page over your own network, it loses its connection; reopen it at the new address after about 10 seconds.

- Choose an address outside your router's DHCP range. Any address that overlaps the hotspot's own range, 192.168.4.x, is refused. Avoid a router whose network is 192.168.4.x even with DHCP.
- In use shows the address in force, for example `192.168.1.50/24 via 192.168.1.1 (DHCP)`.

The control page

The page has seven tabs and refreshes from the fixture every 2 seconds, so changes made from the app or another browser appear on their own. The FIXTURE node map refreshes when you open that tab.

Tab	Controls	Explained in
FIXTURE	Map of the 30 LED nodes, TAP = ON/OFF / TAP = SELECT, ALL, Per-LED trim (Intensity, ± Green)	Lighting modes
color	Master intensity, color wheel (HSI) with Value, RGB color (picker, HEX, R/G/B), White — CCT, White balance — CW / WW direct (BOTH FULL, WHITE OFF), White intensity, Adaptive white	Lighting modes
EFFECTS	24 effect buttons, PAUSE / RESUME, STOP, Effect color, Parameters	Effects
LEVELS	OUTPUT ON / OUTPUT OFF, Grand master, Green / Magenta, Max current, Allow high MC, Power rail	Lighting modes; Power and protection
DMX	Reception, Start address, Personality, Custom channel map	DMX control
NETWORK	This access point, Join a WiFi router (station), Router-side IP address	This section
SYSTEM	Telemetry (battery, temperature, light sensor, LED fault), Device (Nickname, Serial, Firmware, Active source, Mode, OLED display), Presets (this browser), Firmware update, Danger (FACTORY RESET DEVICE, POWER OFF DEVICE)	Operating mode; Firmware updates

- Node map: nodes are numbered 1–30 clockwise from the top-left corner: 1–9 along the top, 10–15 down the right, 16–24 along the bottom, 25–30 up the left.
- Tap and hold: with TAP = ON/OFF, a tap switches a node on or off and a half-second hold selects it. TAP = SELECT swaps the two.
- Selection: color and CCT changes apply to the selected nodes (white outline), or to every node when none is selected. The direct white and White intensity sliders always set every node.
- Effects stop on color changes: changing a color or a node stops any running effect and turns adaptive white off. The direct white sliders leave an effect running.
- Fine adjustment: every slider has − and + buttons. A tap moves one step (0.1 % on the fine intensity sliders); hold to speed up. On a computer, the arrow keys move one step and PageUp/PageDown ten.

- Shared control: a control you are touching is not overwritten by the refresh for 5 seconds, so updates from elsewhere never fight your hand.
- Presets: presets on the SYSTEM tab are saved in that browser only. They are not stored on the fixture or shared with the app or other browsers.
- View-only: when the fixture is locked to another control source, a View-only banner appears and commands are refused, except the direct white controls. Change Mode on the SYSTEM tab to take control (see Operating mode).

DMX control

The fixture takes one universe of wired DMX512 on its DMX input, in one of four personalities. Reception is off until you switch it on.

Set up DMX

1. Connect the console, or an Art-Net or sACN node, to the DMX input. The fixture terminates the line and has no DMX thru, so put it at the end of its DMX run.
2. Choose a personality: DMX → Profile on the display, MODE in the app's DMX-512 card, Personality on the web page's DMX tab, or `dmxmode` on the USB console.
3. Set the start address and switch reception on. Use DMX → DMX on the display (Left/Right set the address, Center switches reception), START ADDRESS with APPLY and the reception switch in the app, Start address and Reception on the web page, or `dmx on 1` on the USB console.
4. To stop anything else changing the light, set the operating mode to DMX. Choosing it also switches reception on.
5. Check the display's DMX → DMX page. RX means frames are arriving; no sig means none has arrived for 2 seconds.

Personality	Channels	Highest start address	Use it for
Basic	6	507	Simple color and white
Standard	12	501	Fine dimming, CCT, tint, strobe and effects
Pixel	154	359	Each of the 30 nodes on its own
Custom	16	497	Your own channel layout

- Changing the personality from the app, web page or USB console does not move the start address. If the new footprint runs past channel 512, the fixture ignores DMX until you set a lower address. The display's Profile page moves the address for you.
- In Auto, a console that is sending takes control back on every frame. Switch reception off to control the light from elsewhere.
- Signal loss: by default the fixture holds the last look indefinitely. After `dmxloss blackout` on the USB console, it blacks out after 2 seconds without DMX and recovers when DMX returns.
- Network DMX: the fixture has no Art-Net or sACN input of its own. Use an Art-Net or sACN to DMX node, and choose the universe on the console or node.

- RDM: while reception is on, an RDM controller can discover the fixture and read or set its start address and personality.
- Fixture definitions: QLC+ (Basic, Standard and Pixel) and GDTF (Basic and Standard).

Basic (6 channels)

Channel	Function
1	Dimmer
2	Red
3	Green
4	Blue
5	Cool white
6	Warm white

Standard (12 channels)

Channel	Function	Values
1	Dimmer	Coarse byte of a 16-bit dimmer
2	Dimmer fine	Fine byte
3	Red	0–255
4	Green	0–255
5	Blue	0–255
6	Cool white	The white level while CCT (channel 8) is 8 or more
7	Warm white	Ignored while CCT is 8 or more
8	CCT	0–7 off, so channels 6 and 7 work separately. 8–255 fades from warm to cool.
9	Green/Magenta	0 full magenta, 128 neutral, 255 full green
10	Strobe	0–7 off; 8–255 from 0.5 to 10 flashes a second
11	Effect	0–7 none; see Effect channel values
12	Effect speed	0–255 gives speed 0–100

Pixel (154 channels)

Channel	Function
1–2	Dimmer, 16-bit (coarse, fine)
3	Strobe
4	Green/Magenta
5–154	Nodes 1–30, five channels each: red, green, blue, cool white, warm white

Node n starts at channel 5 + 5 × (n − 1), so node 1 uses channels 5–9, node 2 uses 10–14 and node 30 uses 150–154. Pixel has no effect channel.

Custom (16 channels)

Each of the 16 channels takes one function: None (0), Master Dim (1), Red (2), Green (3), Blue (4), White (5), Cool White (6), Warm White (7), Strobe (8), Master Fine (9), CCT (10), Green/Magenta (11), Effect (12) or Effect Speed (13). Build the map in the app's CHANNEL MAP, the web page's Custom channel map, or with `dmxmap <channel> <function number>` on the USB console.

- The default map is 1 Master Dim, 2 Red, 3 Green, 4 Blue, 5 White and 6–16 None.
- With no Master Dim mapped, the output is at full.
- White drives both white diodes. Cool White and Warm White override their own side.
- With CCT in use, the white level comes from White. If White is not mapped, there is no white.
- If two channels share a function, the higher-numbered channel wins.

Effect channel values

These apply to Standard channel 11 and to a Custom channel set to Effect.

Value	Effect	Value	Effect
0–7	None (console color)	132–142	Flicker
8–18	Solid	143–152	Gradient
19–28	Rainbow	153–162	Color Cycle
29–38	Beacon Sweep	163–173	Aurora
39–49	Flow	174–183	Alternating Flash
50–59	Lightning	184–193	Candle
60–69	Wave	194–204	TV
70–80	Ripples	205–214	Wipe
81–90	Strobe	215–224	Fireworks
91–100	Breathing	225–235	Paparazzi

Value	Effect	Value	Effect
101–111	Chase	236–245	Fluorescent
112–121	Comet	246–255	Pulse
122–131	Twinkle		

Notes on DMX values

- Park Green/Magenta at 128 when you do not use it. At 0 it gives full magenta.
- The CCT channel keeps the total white constant, so a mid-range DMX CCT gives about half the white output of the same Kelvin set from the app.
- The strobe needs a continuous DMX refresh from the console. It flashes a square wave at 50 % duty, or the waveform last chosen for the Strobe effect.
- Under a DMX effect, the console's red, green and blue become color 1, its cool and warm white become the effect's white, and Effect speed sets the speed. colors 2 and 3, width, count and BPM keep the values last set on the fixture, so set them from the app or web page first. Speed has no effect on Solid, Lightning, Strobe and Breathing.
- Setting the effect channel back to 0–7 returns to plain console color.
- If horizon tracking is on, it still turns the look around the ring under DMX, including a Pixel map.
- If the output was switched off from the app, web page or USB console, DMX does not switch it back on. Use OUTPUT ON.

USB console

A computer on the USB-C port gets a text console for status, settings, diagnostics and full control. It is mainly for setup and support.

Connect

1. Connect the fixture's USB-C port to the computer. It appears as a serial port, shown on Windows as "Silicon Labs CP210x USB to UART Bridge". If Windows does not install the driver by itself, install the Silicon Labs CP210x driver. macOS and Linux need no driver.
2. In a serial terminal, choose that port and set 115200 baud, 8 data bits, no parity, 1 stop bit and no flow control.
3. Set DTR and RTS to off before you open the port. Otherwise opening the port can restart the fixture, and its LEDs may then stay dark until you cycle the power rail.
4. Turn on local echo in the terminal, then type `help` and press Enter.

- The fixture does not echo what you type and has no prompt or line editing. After a typing mistake, press Enter and type the whole command again.
- Type commands in lower case. Only the first word ignores case, so `rail OFF` would switch the rail on.
- A line can hold up to 191 characters.
- If lines run diagonally across the screen, turn on "implicit CR on LF" in the terminal.
- `ok` means the fixture accepted the command, not that it took effect. If another source holds the lock, a `[cmd] … REJECTED(view-only)` line follows. The white command is not yet blocked by a lock.

- The console does not show the firmware version. Read it in the app, on the web page or on the display.

Status and diagnostics

Command	What it does
help	Lists the commands
status	Current state: effect, output, rail, intensity, tint, light mode, max current (set and applied), temperature, LED supply voltage, DMX, operating mode, active source and name. Then battery voltage and Bluetooth state.
nodes	Each node's on/off state and color, 0–255
wifi status	Wi-Fi link state, address and network, and hotspot clients
dmxdiag	Checks DMX reception and gives a VERDICT line
otadiag	Bluetooth address (the fixture's unique ID), last reset reason, last firmware update and rollbacks
crash, crash clear	Shows, or erases, the report of a cache-error restart since power-on
chaindiag, leddiag	LED chain diagnostics for support. Run chaindiag first, because leddiag clears the fault flags it would show.

Light

Command	What it does
on, off	All nodes on or off
rgb R G B, hex RRGGBB	All nodes to one color (0–255). Sets white to zero and stops any effect.
cct K	All nodes to white at K (2700–6500). Sets color to zero and stops any effect.
white CW WW	Sets only the white diodes, 0–32767 each. color and effects keep running.
white on, white off	White at 5600 K, or white off, keeping the color
node i r g b [cw ww]	One node (numbered 0–29) to a color, 0–255
nodeon i 1, nodeon i 0	One node (0–29) on or off
intensity P, dim V	Master intensity, as 0–100 % or 0–32767

Command	What it does
gm V	Green/magenta tint, −100 to 100
effect N [spd wid cnt bpm c1 c2 sm wf c3]	Starts effect N (1–24); see below
stop, pause on, pause off	Stops, freezes or resumes the effect
light N	Adaptive white: 0 Off, 1 Lux Adaptive, 2 CCT Match, 3 Indoor/Outdoor
horizon, pose, autolight, alopts	Sensor features; help lists their options

effect takes, in order: speed, width, count, BPM, color 1, color 2, smoothing, strobe waveform (0–7) and color 3. colors are 16-bit RGB565 numbers, for example 0xF800 red, 0x07E0 green, 0x001F blue and 0xFFFF white. Any parameter you leave out returns to its default. For example, effect 8 50 50 4 120 runs Strobe at 120 BPM with 50 % duty in white.

Settings

Command	What it does
mode auto (or buttons, ble, webap, websta, dmx, usb)	Operating mode. A misspelt mode selects Auto.
name TEXT	Nickname, 1–31 characters. It becomes the Bluetooth name after a restart.
mc V	Max current: 1–50, or up to 159 with mchigh on
mchigh on, mchigh off	Allows max current above 50, or clamps it back to 50
rail on, rail off	LED power rail. rail on from off also sets max current to 7.
display on, display off	The display
dmx on ADDRESS, dmx off	DMX reception and start address (1–512). Anything other than on after dmx switches reception off.
dmxmode basic (or standard, pixel, custom)	DMX personality
dmxmap, dmxmap CH FN	Shows, or sets, the Custom map (channel 1–16, function 0–13)
dmxloss hold, dmxloss blackout	What happens when DMX stops
wifi sta SSID PASSWORD, wifi off	Joins a network (the SSID cannot contain spaces), or leaves it
wifi dhcp, wifi static IP MASK GATEWAY [DNS]	How the fixture gets its address on your network

Command	What it does
`reboot`	Saves settings and restarts
`poweroff`	Switches off without saving the last 3 seconds of changes. On USB power the fixture stops responding instead.
`reset`	Factory reset, with no confirmation

The other commands that `help` lists (`ledfail`, `chainscan`, `chaincount`, `ccsictrl`, `chainlen`, `endbytes`, `order`) are for service. They can disturb the LEDs, block other control for tens of seconds, or restart the fixture. Use them only when support asks you to.

Power and protection

The fixture runs from a 12.0–16.8 V power output on its main 2B 5-pin Lemo input. It protects itself by limiting current and dimming when hot.

Power inputs

Input	Powers	Notes
Main input	Everything, including the LEDs	12.0–16.8 V output. Self-resetting 3 A fuse, reverse-polarity protection and an 18 V surge suppressor.
USB-C	The electronics only	5 V. The display, radios and console work, but the LEDs cannot light. Plugging USB in starts the electronics without the power button.

While USB is connected, the fixture cannot switch fully off. Unplug USB to finish switching off.

Battery gauge

The fixture reads the pack voltage once a second and shows it as a percentage on a straight-line scale.

Pack voltage	12.0 V	13.2 V	14.4 V	15.6 V	16.8 V
Gauge	0 %	25 %	50 %	75 %	100 %

- Read it on the display (Info → Battery and Info → Status), in the app (VOLTAGE, and SETUP → SENSORS → BATTERY), on the web page (SYSTEM → Telemetry) or with `status`.
- There is no low-battery warning or cut-off. Recharge before the gauge reaches 0 %.

Max current

Max current (MC) sets how hard the LEDs are driven, and with it the brightest output the fixture can give. **Use caution** using high max current (“allow high MC”) and be aware of amperage draw on the power distribution power is being drawn from. This mode may affect the available power to other accessories on the power distribution network (cage, distro box, direct battery power).

- The range is 1–50 and the default is 15. Allow high MC raises the limit to 159.
- Higher max current gives more light, more heat and shorter battery life.
- Above 50, the LEDs can brown out or freeze at high load. If they scramble or go dark, switch the power rail off and on.
- Set it on the display (Setup → Max Cur), in the app (SETUP → GENERAL → MAX CURRENT · MC), on the web page (LEVELS → Max current) or with `mc`.

Automatic protection

Protection	What it does	What you notice
Current limit	Lowers the applied max current when needed to keep the input current at or below about 2.2 A. In practice it acts only with Allow high MC on.	Lower output, by up to about half on bright scenes at high max current. The web page's Max current shows "applied N (thermal derate)" for this limit too.
Thermal derating	Caps the applied max current on a scale that falls from 60 °C to the minimum at 80 °C board temperature. At max current 50 or less, nothing changes until about 77–79 °C. It never switches the light off.	Dimming as the board nears 80 °C. The web page shows "applied N (thermal derate)".
LED chain watchdog	Restarts a frozen LED chain by itself within about 4 seconds, up to 5 times in a row.	A brief blink. The web page's Chain recoveries count rises. After 5 failures, cycle the power rail or restart.
LED supply supervisor	Switches the LED supply off and keeps it off if its voltage runs high. Recovers from a sag by itself at max current 7, and switches the supply off after more than 3 sags in a minute.	Rail shows OFF, or a brief dropout followed by dimmer output. Switch the rail on and raise max current.

Power rail

- The power rail switch cuts the LED supply while the electronics stay on, to save battery and heat.
- Switching it back on restarts the LEDs and sets max current to 7, a safe low value. Raise max current again afterwards.
- The rail is always on after power-up.
- Switch it on the display (Setup → Rail, then Center), in the app (SETUP → GENERAL → DEVICE CONTROLS → POWER RAIL), on the web page (LEVELS → Power rail) or with `rail on` and `rail off`.

Switching off

- Hold the power button for 3 seconds. The fixture saves its settings, turns the LEDs off and switches off when you release the button.
- POWER OFF DEVICE in the app or on the web page, and `poweroff` on the USB console, switch it off remotely. They do not save changes made in the last 3 seconds, and they are refused while another source holds the lock, although the web page and console still say "powering off".
- To switch on again, press the power button.

Firmware updates

Update the fixture from the app over Bluetooth, or from the web page over Wi-Fi. New firmware runs on trial, and the fixture returns to the previous version by itself if the new one keeps failing to start.

Check the version

Firmware versions are dates, such as 2026-10-13. Read the version in the app (SETUP → ABOUT → FIRMWARE), on the web page (SYSTEM → Firmware) or on the display (Info → About). Releases are published at github.com/TheESTest/LuxCon-firmware-releases.

Update from the app

1. Connect the phone to the internet and to the fixture.
2. Open SETUP → ABOUT → FIRMWARE UPDATE. LATEST AVAILABLE shows the newest release and whether it is newer than the fixture's firmware.
3. Tap DOWNLOAD & INSTALL (or RE-INSTALL), check the details, then tap INSTALL.
4. Keep the phone close, with the app open and the screen on, through DOWNLOADING, then INSTALLING · PREPARING, TRANSFER and VERIFY.
5. At DONE, the fixture restarts. Reconnect from CONNECT and check the version.

- With several fixtures, update each in turn. An update goes only to the active fixture.
- You can cancel while downloading, and during PREPARING and TRANSFER. The fixture keeps its old firmware but may need a power-cycle.

Update from the web page

This is faster than Bluetooth and needs no app.

1. Download the latest `LuxCon_<version>.bin` from the releases page. Upload only this file: other firmware images are accepted but cannot roll back.
2. Open the fixture's web page and go to SYSTEM → Firmware update.
3. Choose the file, tap UPLOAD & FLASH and confirm.
4. Keep the page open until it shows "Flashed OK — rebooting. Reconnect in about 15 seconds."

After an update

- Leave the fixture on for at least 30 seconds, so it can mark the new firmware as good.
- If the new firmware fails to start 3 times in a row, the fixture goes back to the previous version on its own. Switching off within 30 seconds of a start counts as a failed start.
- Settings and the saved scene are kept.

- If the LEDs stay dark after the restart while the display and app work, switch the power rail off and on, then raise max current (the rail sets it to 7). If that does not help, wait until the fixture has run for 30 seconds, then switch off, disconnect all power including USB, and switch on again.
- If a Bluetooth update is interrupted, the fixture keeps its old firmware. If its LEDs stop responding, power-cycle it.

If an update fails

Message	What to do
Could not reach GitHub	Connect the phone to the internet.
GitHub rate limit reached — try again in a little while.	Wait a few minutes, then retry.
Checksum mismatch — the download is corrupt.	Retry the download.
Transfer was incomplete … Move closer and try again.	Move the phone closer and retry. The fixture was not changed.
Timed out waiting for the device to respond.	Move closer, check the fixture is on, and retry.
The fixture never confirmed the update and did not restart …	Reconnect and check the version. The firmware is unchanged.
Failed: bad image magic (nothing flashed here?), or Failed: flash write failed (web page)	The file is not LuxCon firmware, or is damaged. Download LuxCon_<version>.bin again.
Failed: SHA-256 mismatch (web page)	The file is damaged. Download it again.
Upload failed — connection lost. (web page)	Reconnect to the fixture and retry.

Troubleshooting

Most problems come from the operating mode, a switched-off output or power rail, or a max current reset to 7, so check those first.

Symptom	Likely cause	What to do
LEDs dark at power-up, display working	Nodes were switched off with OUTPUT OFF or ALL, which the fixture remembers	Use OUTPUT ON (web page, LEVELS), ALL (app) or on.
LEDs dark on a new fixture	No scene is stored yet	Open Light → White on the display and press Left or Right once, or set a color.
LEDs dark, running on USB	USB cannot power the LEDs	Connect the battery or DC supply via main 5-pin Lemo input.

Symptom	Likely cause	What to do
LEDs dark after a restart or firmware update	The LED supply did not restart	Switch the power rail off and on, then raise max current. If needed, wait 30 seconds, then disconnect all power, including USB.
Output dimmer than expected	Max current was reset to 7 when the rail restarted	Raise max current (default 15).
Output drops when the fixture is hot	Thermal derating as the board nears 80 °C, or sooner at high max current	Let it cool, and keep it uncovered.
Changes from the app or web page are undone at once	A DMX console is sending while the mode is Auto	Switch DMX reception off, or lock the operating mode to your source.
"View-only" messages, or the buttons are ignored	The operating mode locks control to another source	Change the mode; see Operating mode. Recommend setting to “Auto” operating mode
The app cannot find the fixture	Bluetooth is off or not allowed, another phone is connected, or the nickname lacks "LuxCon"	Turn Bluetooth on and allow Nearby devices, disconnect the other phone, or use KNOWN DEVICES.
The web page does not open	The device is not on LuxCon-PRO, or the browser tried https	Join LuxCon-PRO and type http://192.168.4.1.
LuxCon.local does not open	Several fixtures share the name, or the device does not support .local names	Use the LAN address from the NETWORK tab.
The fixture will not join your Wi-Fi	Wrong password; a 5 GHz-only, enterprise or sign-in network; out of range	Re-enter the password, or use a 2.4 GHz network with a plain password.
No response to DMX	Reception off, wrong address or personality, address too high for the personality, or another source holds the lock	Check that the display's DMX page shows RX, recheck the settings, and run `dmxdiag`.
DMX colors look magenta	The Green/Magenta channel is at 0	Set it to 128.
Dark under DMX although the DMX page shows RX	The output was switched off from another source	Use OUTPUT ON.

Symptom	Likely cause	What to do
A recalled preset looks different	Presets do not store the effect's SCENE and LEDS choices, LED on/off states or adaptive white	Set them again on EFFECTS.
LEDs flicker, scramble or freeze at high output	Max current above 50 browns out the LED supply	Lower max current or switch Allow high MC off, then cycle the power rail.
The fixture will not switch off	USB is connected, or the button was not held for 3 seconds	Unplug USB, and hold the power button for 3 seconds.
A new nickname does not appear in Bluetooth scans	The Bluetooth name changes only at start-up	Switch the fixture off and on.
The fixture restarted by itself	A crash	Before switching off, connect USB and save the output of `crash`, `otadiag` and `status` for support.

Factory reset

A factory reset restores the default settings and works in any operating mode.

- Display: Setup → Restore, press Center, then Right to confirm.
- App: SETUP → GENERAL → RESTORE FIRMWARE DEFAULTS.
- Web page: SYSTEM → FACTORY RESET DEVICE.
- USB console: `reset`, with no confirmation.

It restores the defaults listed under Specifications and defaults, erases the saved Wi-Fi network and the nickname, and leaves every node at 50 % cool and 50 % warm white. It keeps the horizon tracking options, app and browser presets, and the firmware.

Contact support

Email info@cineluxcinematools.com, or use SEND FEEDBACK in the app. Include the firmware version and, if you can, the output of `status`, `otadiag` and `crash` from the USB console.

Specifications and defaults

These figures describe firmware 2026-10-13 and the current board design.

Specifications

Item	Value
LED nodes	30, in a rectangular ring (9 + 6 + 9 + 6). Warm white and Cool white LEDs have a CRI rating of 95

Item	Value
Filter Tray	Standard Arri size 4x5.65” mattebox and cinema filter size. The LuxCon Pro replaces a filter tray in a mattebox system
diodes per node	Red, green and blue; cool white (5300–6000 K bin); warm white (2800–3100 K bin)
CCT control	2700–6500 K nominal; default 5600 K
Dimming	15-bit per channel and 15-bit master (32,768 levels)
LED drive frequency	About 19.5 kHz
Refresh rate	20 Hz; 40 Hz under DMX and during Strobe
Power input	12.0–16.8 V DC; self-resetting 3 A fuse; reverse-polarity protection
Input current limit	About 2.2 A
USB-C	5 V for the electronics only; serial console at 115200 baud
Max current	1–50, default 15; up to 159 with Allow high MC
Thermal derating	Max-current ceiling falls from 60 °C to 80 °C board temperature
DMX	DMX512 input with RDM, galvanically isolated; one port, terminated, no thru
DMX personalities	Basic 6, Standard 12, Pixel 154 and Custom 16 channels
Bluetooth	Bluetooth LE, name "LuxCon"; one phone at a time; no PIN
Wi-Fi	2.4 GHz. Hotspot LuxCon-PRO (WPA2, password LuxCon Pro, up to 4 devices) at 192.168.4.1. Joins your network by DHCP or a static address, as LuxCon.local.
Display	128 × 32 pixel OLED
Sensors	Ambient light and color (OPT4060); 9-axis position sensor
App	LuxCon Pro 1.0.1 for Android 12 or later

To be added: light output, CRI, beam angle, dimensions, weight, connector types and operating temperature range.

Factory defaults

A factory reset sets these values.

Setting	Default
Operating mode	Auto

Setting	Default
Scene	All 30 nodes at 50 % cool and 50 % warm white, no color
Master intensity	100 %
Green/Magenta tint	0
Effect	None
Max current	15, Allow high MC off
Adaptive white	Off
DMX	Reception off, address 1, Basic personality, hold on signal loss
Custom DMX map	1 Master Dim, 2 Red, 3 Green, 4 Blue, 5 White, 6–16 None
Wi-Fi	Hotspot on; not joined to a network; DHCP
Nickname	None, so the Bluetooth name is LuxCon
Light auto transition	Off; dim 50 lux, bright 10,000 lux; floor 5 %; response 2.5 s
Pose tracking	Off; cone 10°, edge 30°, floor 0 %, response 0.5 s

At every power-up, whatever was saved, the output, power rail and display come on, effects are not paused, and horizon tracking is off.